



# El Niño Fact Sheet for Southeast California & South-central Arizona



**WFO Phoenix, AZ**  
**Updated: September 21, 2006**

## Overview

Weak El Niño conditions, which had developed across the equatorial waters of the Pacific Ocean in late August and early September, continued to slowly strengthen the past two weeks.

The term El Niño refers to the large-scale ocean-atmosphere climate phenomenon linked to a periodic warming in sea surface temperatures across the central and east-central equatorial Pacific (between approximately the date line and 120 degrees west). El Niño represents the warm phase of the El Niño/Southern Oscillation, or ENSO, cycle, and is sometimes referred to as a Pacific warm episode. El Niño originally referred to an annual warming of sea surface temperatures along the west coast of tropical South America.

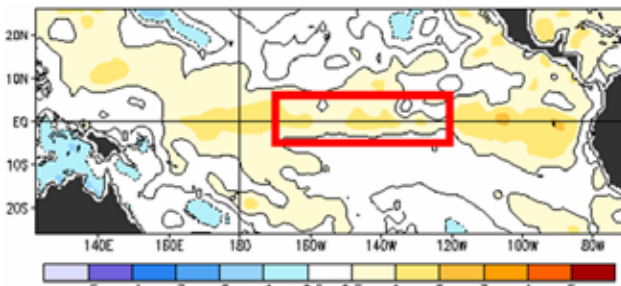


Figure 1 – Seven day average sea surface temperature anomalies centered on September 13, 2006.

## Observations

Current sea surface temperature (SST) anomalies range from +0.7°C to +0.9°C across the Pacific Ocean (figure 1). El Niño **conditions** occur when SST anomalies are at-or-above 0.5°C in the Niño 3.4 region. The Niño 3.4 region is a key area of the Pacific Ocean where SSTs are carefully monitored (red box in figure 1).

The current Oceanic Niño Index (ONI), which is a three month average of SST anomalies in the Niño 3.4 region, is 0.3°C. Operationally,

an El Niño is said to be ongoing when the ONI is at-or-above 0.5°C. An El Niño **episode** occurs when the ONI is at-or-above 0.5°C for five consecutive months.

## Historical Analysis

With weak to moderate El Niño conditions, historically, temperatures have been slightly below normal for the October-November-December timeframe across south-central Arizona and southeast California (fig. 2). The slightly below normal temperatures historically continue during the December-January-February timeframe when El Niño conditions are present (fig. 3).

Composite Temperature Anomalies (F)  
Versus 1971–2000 Longterm Average  
Oct to Dec: 1987, 1957, 1994, 1986, 1963, 2004, 1976, 1977, 1951, 1969, 1968, 2003, 1979

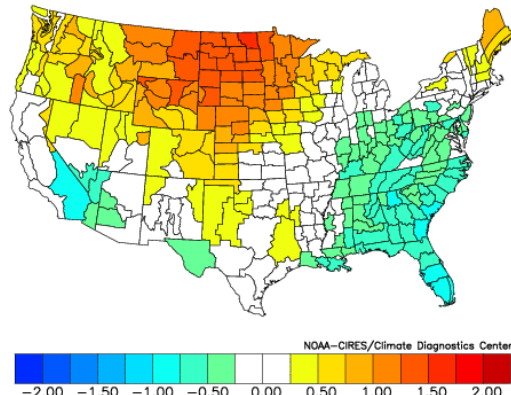


Figure 2 – Historical Oct-Nov-Dec temperature anomalies during a weak to moderate El Niño.

Composite Temperature Anomalies (F)  
Versus 1971–2000 Longterm Average  
Dec to Feb: 1965–66, 1994–95, 2002–03, 1968–69, 1963–64, 1987–88, 1977–78, 1976–77, 2004–05, 1969–70, 1979–80, 1990–91

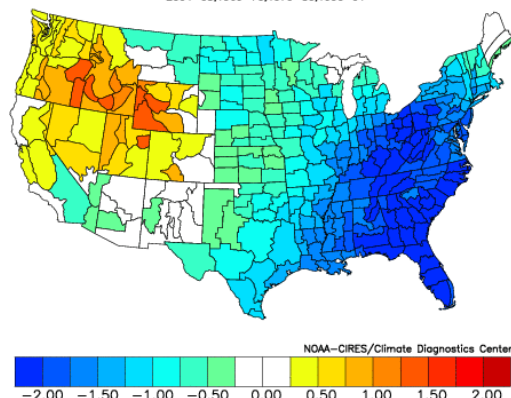
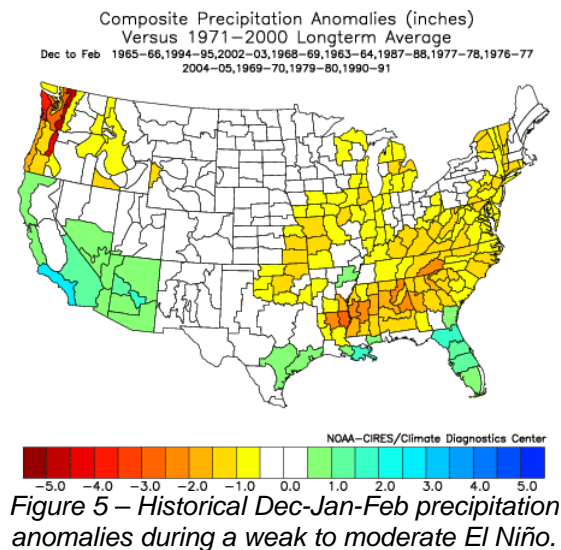
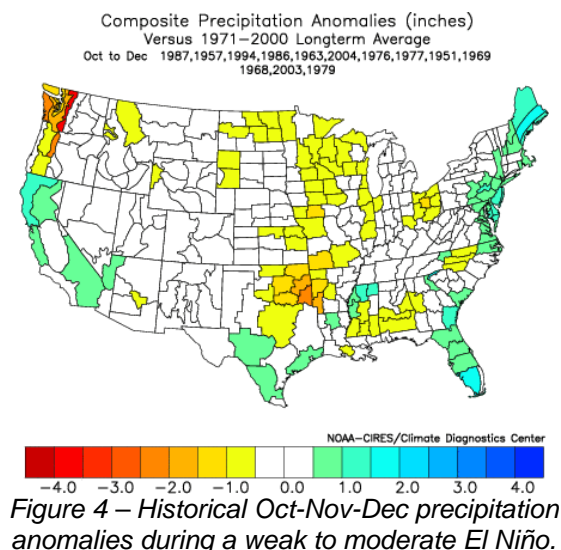


Figure 3 – Historical Dec-Jan-Feb temperature anomalies during a weak to moderate El Niño.

No strong precipitation signals historically occur during the October-November-December timeframe over south-central Arizona and southeast California during El Niño conditions (fig. 4). However, when El Niño conditions are present, a signal of above normal precipitation does develop during the December-January-February timeframe (fig. 5).



## Outlook

Most statistical and coupled model forecasts indicate weak to moderate El Niño conditions will continue through early 2007.

The official October-November-December outlook from the NOAA Climate Prediction Center shows increased chances for above normal temperatures (fig. 6) and equal chances for above, near, or below normal precipitation (fig. 7) for the October-November-December timeframe across the southwest U.S.

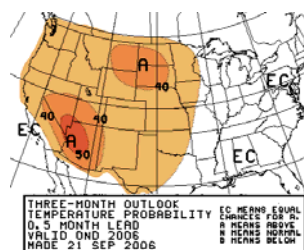


Figure 6 – Oct-Nov-Dec Temperature Outlook.

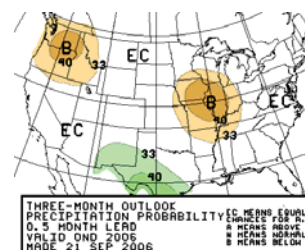


Figure 7 – Oct-Nov-Dec Precipitation Outlook.

The official December-January-February outlook from the NOAA Climate Prediction Center shows increased chances for above normal temperatures (fig. 8) and increased chances for above normal precipitation (fig. 9) for much of the southwest U.S. The temperature outlooks of increased chances for above normal temperatures is likely a reflection of long-term trends.

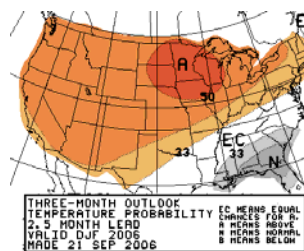


Figure 8 – Dec-Jan-Feb Temperature Outlook.

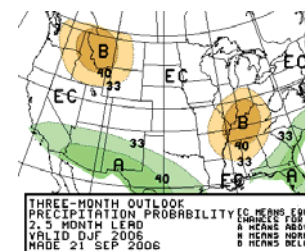


Figure 9 – Dec-Jan-Feb Precipitation Outlook.

## Additional Information

NOAA Climate Prediction Center  
<http://www.cpc.noaa.gov>

NOAA El Niño Page  
<http://www.elnino.noaa.gov>

**Next Update: October 19, 2006**